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Paper for the International Rural History Conference 2010, University of Sussex,
Brighton (UK) 13-16 September 2010

Modernization of the Dutch agriculture system 1950-2010

(work in progress)

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Introduction

The interest among historians in the developments of twentieth century's agricultural history is not very overwhelming. Most historians prefer to study the period before 1900, before the effects of the Industrial Revolution on the agricultural system became obvious. The periods before and after 1900 have different characteristics and need other approaches. In this paper modernization and the growing role of the state in agriculture subjects will be analyzed as important topics of the twentieth century.

The modernization process of the Dutch agricultural system is characterized by three developments: rationalization, specialization and expansion of production. This process started some years after the end of the Second World War. During the war the Dutch agriculture system was partly destroyed, but in the early fifties, after its recovery, the necessity of modernizing the system became evident. Dutch farmers were losing their privileged position at the international agriculture market and a structural improvement of the system was inevitable. Sicco Mansholt, Dutch Minister of Agriculture and from 1958 European Commissioner in the same field, initiated several programs (Land Consolidation Program and Rural Area Development Program) that stimulated the agricultural system into the process of modernization. Today this process is still going on, but during the seventies of the twentieth century its character definitely started to change. Responsible for this change were, among others, environmental issues. The rise of the environmental movement forced the agricultural sector first to give up its monopoly on the rural area and later to take measures to decrease the environmental consequences of the modernized farming methods. Today modernization is also shaped by the demands of environmentalists, but the economic developments on the world market are still the dominant factor in the process.

This paper gives an introduction in the main streams of modernization of the Dutch agriculture system and questions the role of the national government in this process. It tries to show that the role of the government concerning the agricultural sector has changed. Initially agricultural production goals were dominant. Nowadays the government tries to change its policy towards an environmental and ecological management of space; nevertheless at the same time it is unable to abandon its old position. The involvement of the Dutch state in the modernization process during the

period 1950-1970 created an inheritance that possibly prevents the present-day government from implanting an effective environmental policy. The main subject of this paper is: what was the role of the Dutch government in the modernization of the agricultural system after the Second World War and which factors changed that role after 1970?

This paper is partly based on my dissertation about the *Rural Area Development Program* which covered the period between 1950 and 1970 and discusses social aspects of modernization. It is also based on a book I am still writing: *Farmer between market and society*, which analyzes the effects of the modernization after 1970.¹ Please note that the paper gives a not yet completed analyse. The complex relation between agricultural and environmental policy is still puzzling me.

Some remarks about Dutch agriculture before 1950

The Second World War was not necessarily a break between two periods in the Dutch modern agricultural history. If one has to point out such a moment then the fifties of the twentieth century would be more appropriate. The modernization that led to the actually agriculture system started somewhere around 1954. In that year the Parliament passed a bill on Land Consolidation which created for the government the opportunity to solve problems in a more structural way.² To understand the choice for an inevitable modernization in those years, it is necessary to give some highlights and characteristics of the Dutch agricultural system before 1950.³

Until the end of the nineteenth century agriculture played a central role in the national economy, but after 1870 it became less important due to growing urbanization and industrialization.⁴ However, the meaning of agriculture should not be underestimated. Around 1900 a substantial part of the population still worked in this sector.

¹ Erwin H. Karel, *De maakbare boer. Streekverbetering als instrument van het Nederlandse landbouwbeleid 1953-1970* (Groningen/Wageningen 2005); Erwin H. Karel, *De boer tussen markt en maatschappij* (forthcoming: winter 2011)

² Simon van den Bergh, *Verdeeld land. De geschiedenis van de ruilverkaveling in Nederland vanuit een lokaal perspectief, 1890-1985* (Wageningen/Groningen 1984); G. Andela, *Kneedbaar land, kneedbaar volk. De heroïsche jaren van de ruilverkavelingen in Nederland* (Bussum 2000).

³ E. Karel, E. Vanhaute & R. Paping, 'The Low Countries 1750-2000', in: Eric Vanhaute e.a. (eds.) *Rural Economy and Society in North-Western Europe 500-2000*, book III: *Family formation, labour and income strategies* (forthcoming: Leuven 2011).

⁴ J.L. van Zanden, *De economische ontwikkeling van de Nederlandse landbouw in de negentiende eeuw 1800-1914* (Wageningen 1985), 367.

After the agricultural depression from 1879-1896 the Dutch system underwent a change. The agricultural questions became a concern for the Dutch government. Especially the problem of small farmers was brought to attention. Remarkably enough it was this group of farmers that survived the crisis rather good. The introduction of artificial fertilizers, dairy factories and the by farmers founded rural cooperatives created new opportunities for small farmers. Their number grew after 1896.⁵ The 'invention' of artificial fertilizers made it possible to cultivate waste land and gave more potential small farmers a possibility to start a farm. The introduction of rural cooperatives gave farmers a chance to sell and buy products at more profitable prices. Besides, the farmers participated in the profits of the cooperatives. And the dairy factories gave small farmers the opportunity to deliver their relatively small surplus to them. Before that it was not profitable for these farmers to process the milk surplus at their own farm.

Some authors presume that not until 1900 peasantry disappeared in the Netherlands, but generally most rural historians today agree that peasantry became already of minor importance in the centuries before.⁶ The number of small farmers grew in the period between 1896 and 1914, especially in those areas where mixed farming (arable land and live stock) was the most widespread type of farming style. Most of these areas were situated in the eastern and southern parts of the Netherlands where sandy soil was dominant. The farms in these areas were less market orientated than the commercialized farms in the coastal areas, although they were certainly not peasants. In these areas the so called 'small farmers problem' developed most after de First World War. The government considered the eastern and southern parts of the Netherlands as comparatively backward and most modernization projects were concentrated in those areas.⁷

⁵ J. Bieleman, , *Boeren op het Drentse zand 1600-1910. Een nieuwe visie op de oude landbouw* (Utrecht 1987).

⁶ See for a debate on this issue J. Bieleman and J.L. van Zanden, *Tijdschrift voor Geschiedenis* 101 (1988) 190-224.

⁷ Karel, *De maakbare boer*, 6.

Table 1. Number of Dutch farmers 1910-1970

	1910	1921	1930	1938	1950	1959	1970
1-5 ha	55366	60610	58295	66158	60199	36309	18100
5-10 ha	37331	44468	50832	50503	60603	57118	32150
10-20 ha	29411	33076	39814	46488	47495	52321	49066
20-50 ha	23331	22182	23572	26105	24011	23878	29967
> 50 ha	3405	2739	2512	2259	1991	1912	2326
Totaal	148844	163075	175025	191513	194299	171538	131609

Source: CBS- Landbouwtellingen 1950 (Dutch Central Statistical Office)/ E.H. Karel, 'De illusie van het maakbare platteland. Streekverbetering 1956-1970' in: P. Kooij e.a. (red.), *De actualiteit van de agrarische geschiedenis* (Groningen 2000) 65-98, 73.

Until and during the First World War farmers had economically spoken a good time. It is true that the government controlled agriculture process and production during wartime, but this worked out profitable for the farmers. However, already in the first decade after the war their economic position became instable. One of the reasons might have been the lack of investment during the First World War, but certainly other factors, like the prices on the international market, played also a role. What became clear was that the number of small farmers did not stroke with economic development. The income of those farmers could not keep up with wages in the growing industry. This problem became more evident after the beginning of the crisis in 1929, when the agricultural sector was immediately confronted with declining prices. Poverty among farmers was not unusual.

Intermezzo: role of the state before 1945

The Dutch government intervened three times in the agricultural sector. The first time was during the Agrarian Depression in the last part of the nineteenth century. The result was the development of a system of agricultural education and advising farmers about agricultural problems and innovations. This system had to improve the farm work of small farmers. The second time was during the First World War when the government directly interfered in the production plans of the farmers. This time the national interest prevail the individual interests of farmers. Finally, after the crisis that started in 1929 the government developed a method to preserve small farmers from a bankruptcy. From 1933 onwards it took several measures to lighten the burden. Price and production

regulation should guarantee most farmers a minimum income.⁸ The state had never before regulated a sector of the economy so intensively. By the end of the crisis the agricultural sector started to recover. However a substantial part of the farmers was politically radicalized.⁹ The traditional political movements lost their grip on them. Besides, the economical recovery was more a temporarily upswing, than a structural: the Dutch farmers profited certainly from the German (pre)war economy.

The Dutch economical policy before the Second World War can be characterized as 'laissez faire', but agricultural policy was an exception to this rule. There were two main reasons for this exception. First of all the government had to secure the food supply of the nation. Secondly, in terms of employment, agriculture was very important. Industry could not absorb the still existing great number of land labourers and small farmers.

Since the end of the nineteenth century the impact of the state interventions in agricultural affairs was growing each time. This trend continued after 1945.

Three structural problems (1945-1950)

After the Second World War the Dutch agriculture had to cope with three main problems: competition and the international market, inefficient production and the number of small farmers.¹⁰ First of all it had to find its place in the international competition. Just after the Second World War Dutch farmers were very able to compete on the international market. However, the high international prices were favourable for the farmers, but very unfavourable for the Dutch economy. High food prices would push the wages of labourers in the industry. Consequently it would influence the export of industrial products negative and like other European countries the Dutch needed dollars earned by export to stimulate their economy. The government decided therefore to subsidize the farmers in order to prevent them from selling all their products at the international market. In the beginning consumers benefited from this subsidy, but on the other hand farmers were not stimulated to lower their productions costs. The lack of

⁸ Jan Bieleman, *Five centuries of farming: a short history of Dutch agriculture 1500-2000* (Wageningen 2010), 167-168.

⁹ J.H. de Ru, *Landbouw en Maatschappij. Een analyse van een boerenbeweging in de crisisjaren* (Deventer 1979).

¹⁰ Compare: Bieleman, *Five Centuries*, 248.

investments became apparent in the fifties. When prices at the international market started to drop, many Dutch farmers became unable to compete.

One of the reasons why farmers did not invest sufficiently was the system of Subsidizing. But there are certainly other factors that played an important role. In many areas farmers worked rather traditional.¹¹ For example: essential agricultural knowledge was passed from father to son, which prevented the introduction of modern production techniques. Or: banks were not eager to lent money to traditional farmers. Especially small farmers could hardly gain enough money to invest in their farms. It was still their mission in life to pass over the farm to the eldest son, who felt obliged to take it over.

In many backward areas a major operation was needed to improve the production conditions. One of the answers was a large scale land consolidation. The Dutch landowners and farmers had some experience with land consolidation projects, but after 1954 these projects were more extensive. The interference of the state grew, because the improvement of landscape and infrastructure, like building new roads, canals and bridges, became part of the land consolidation. The government feared that in some backward areas the high investment would not be profitable enough, when traditional farmers would not improve their farming style to the new situation. So it decided to carry out a social program, the so called Rural Area Development Program. Especially traditional working small farmers had to be acculturated into the modern world by this program.

The third problem was the number of small farmers. Most of these farmers could be found in the eastern and southern parts of the Netherlands.¹² They had mixed farms, which mostly were less than 10 hectares. The future of these farmers was uncertain. They had not enough land, not enough money to invest and not enough income to guarantee their families a welfare status comparable with factory workers. But most of them were unwilling to leave the agricultural sector. As mentioned before, it was their mission in life to keep the farm within the family. They were supported in their mission by farmer unions and by confessional political parties. The small farmers formed a substantial part of the electoral support of those parties. In the Dutch political context those in favour of

¹¹ Karel, *De maakbare boer*, 21-80.

¹² A. Maris en R. Rijnveld, *Het kleine-boerenvraagstuk op de zandgronden; ontwikkelingen in de periode 1949-1959* ('s-Gravenhage 1960).

rigorous agricultural reforms, like the modernists, had to compromise with the confessionals. The Rural Area Development Program (1956-1970) was one of the outcomes of such a compromise. The program intended to educate traditional working farmers and their families to participate in the modern agricultural world. In its form and intention it was a social engineering program. The program was executed with the help of the farmer unions, because confessional organizations had objections to intensive state intervention in family life.

The problems in agriculture were certainly not only economic. Some politicians were afraid for a renewal of radicalisation of farmers, like happened before the Second World War. After the war a new 'political' system was introduced. First of all a Ministry for Agriculture became part of the governmental system. Secondly the farmer unions became part of a corporatist system with far-reaching responsibilities. And thirdly, the Members of Parliament specialized in agricultural questions took prominent positions within their parties. The collaboration between Members of Parliament, unions and ministry is known as the 'iron triangle' or 'Green Front'. The participants could take within the corporatist system many decision without democratic control.¹³ In this way the impact of the state on agricultural developments increased fast.¹⁴

Modernization after 1950

It was already before the Second World War clear that the number of small farmers had to be reduced. During the war plans were made for the emigration of farmers and their families and after the war the government tried to solve the agricultural problem by stimulating emigration. As a result farmers, sons of farmers and land labourers emigrated to the United States, New Zealand, Australia and Canada, but in the fifties their number shrunk. The recovery of the Dutch economy was so successful, that landless farmers could find work in the industry. However, this eased the agriculture problems only

¹³ J. Frouws, *Mest en macht. Een politiek sociologische studie naar belangenbehartiging en beleidsvorming inzake de mestproblematiek van Nederland vanaf 1970* (Wageningen 1994), 11-74.

¹⁴ E.J. Krajenbrink, *Geschiedenis van het Landbouwschap. Over de PBO en het poldermodel in de land- en tuinbouw 1945-2001* (Groningen/Den Haag 2004); S.L. Louwes 'Het gouden tijdperk van het groene front. Het landbouwbeleid in de na-oorlogse periode', in: G.A. Kooy, J.H. de Ru en H.J. Scheffer (red.), *Nederland na 1945. Beschouwingen over ontwikkeling en beleid* (Deventer 1980) 223-249.

temporarily. It was evident that a structural reconstruction of the agricultural sector was necessary. A new Land Consolidation Program and a Rural Area Development Program were started to solve the problems.

Theory behind the modernization

One of the interesting aspects of the Rural Area Development Program is the theoretical background which was developed by some rural sociologists. The theory of the modern-dynamic culture pattern was the core of a scientific-ideological foundation of the Rural Area Development Program. This theory was initiated by E.W. Hofstee, professor at the Department of Sociology at the Wageningen Agriculture University and a strong advocate of modernization.¹⁵ In a nutshell this theory presumed that society was in a transition from a traditional agricultural pattern to a modern industrial pattern.¹⁶ Hofstee's theory became well-known in the sixties when he used it to explain nineteenth and twentieth century Dutch demographic developments, but originally he wanted to prove the necessity of the modernization of farming styles. From 1953 onwards he and his staff members did research that on the one hand tried to justify the fundamental assumptions of the theory and on the other hand tried to show the effects of modernization. At the moment the research-work was done, the Dutch sociology changed. The dominant and in many ways typical Dutch *sociography* was surpassed by the modern, American influenced sociology. Hofstee's theory had elements of both schools. On the one hand the theory assumed that the development towards a modern culture pattern was a process of a region or village as a whole. In that way it fitted into the communal thinking of the *sociography*. On the other hand Hofstee's fellow researchers, like B. Benvenuti, A.W. van den Ban and R. Bergsma, tried to justify the theory with social-psychological models of explanation in which the individual was assigned a central place.¹⁷ The combination of both approaches lead to an inner contradiction in the theory. Besides, it was too static and it was historical insufficiently thought through. The

¹⁵ See for example: E.W. Hofstee, *Rural life and rural welfare in the Netherlands* (The Hague 1957).

¹⁶ Hofstee held in 1953 a lecture where he explained his ideas about modernization for an audience of agriculture officers: E.W. Hofstee, *Sociologische aspecten van de landbouwvoorlichting* (Wageningen 1953); see also Karel, *De maakbare boer*, chapter 2.

¹⁷ See for example B. Benvenuti, *Farming in cultural change* (Wageningen 1961) and R. Bergsma, *Op weg naar een nieuw cultuurpatroon, studie van de reactie op het moderne cultuurpatroon in de Dokkumer Wouden* (Assen 1963).

traditional farmer was not much more than the typological opposite of what Hofstee described as the modern farmer. Not until the beginning of the sixties the Wageningen sociologists tried to build in more dynamic elements in their theory. However, the inner contradictions and the static nature did make the theory at the end an uninteresting scientific doctrine. Half way the sixties Hofstee's staff members doubted the correctness of the hypothesis on modernization. That is one of the reasons why the further development of the theory failed.

The power of modernization can certainly not only be explained by the theory. In the end it was the combination of a real existing problem of too much small farmers, the theory of modernization, and most of all the political urge to solve the problem. This also explains the growing will by farmers and their unions in favour of extensive state intervention.

The Land Consolidation Program (1954-1980)

Between 1955 and the year the Land Reconstruction Act was introduced (1985) about a thousand land consolidation programs were executed. This include about 1.25 million hectares which is about half of the cultivated area in the Netherlands. The state invested an estimated 2.5 billion euro's; this is about 190 euro's per hectare.¹⁸ Land consolidation was well-known in the Netherlands before 1955. Already in 1924 a Land Consolidation Act was implemented. But before 1955 it was meant to help individual farmers. After 1955 land consolidation became an instrument to improve the production structure of the whole agricultural sector.¹⁹ The land consolidation program had two main goals. In the first place the rearrangement of land should make it possible for farmers to work more efficient. The creation of larger sections of land implied that farmers could use bigger machines and that they needed less travel time between their properties. In the second place the government invested in an improvement of the infrastructure. The construction of new roads, bridges, canals, and lockage would also improve the agriculture production.

The effects were primarily an up scaling of farms or more intensive use of the means of production. In 1900 a farmer with 1-2 hectares could support a family, but in 1945 he

¹⁸ Van den Bergh, *Verdeeld land*, appendix C.

¹⁹ Van den Bergh, *Verdeeld land*, 199.

needed at least 4 hectares. In 1956 it could not do with less than 7 hectares and five years later 12 hectares were needed. In 1970 the minimal size of a farm was 20 hectares. Nowadays, an arable farm in the Netherlands needs 60-100 hectares of land. So the process scale enlargement accelerated during the past half century.

The second effect was a rationalisation of the production. Fewer labourers were needed to do the same work. First the majority of the land labourers started to look for work in industry. Later on the number of farmers reduced. Between 1945 and 2010 their number shrunk from 400.000 to 75.000.

The third effect was a specialization in farming. The Rural Area Development Program stimulated a reduction of the diversification of the farm work, for example by reducing the live stock to one or two species. However, this process quickly developed in a far-reaching specialization, in which for example landless production in some sectors became the rule.

The Rural Area Development Program (1956-1970)

The Rural Area Development Program was especially based on the theoretical concepts of Hofstee: some farmers still lived in a backward agricultural society and had to be pushed into the modern industrialized world. They had to overcome a 'cultural lag'.²⁰ The Rural Area Development Program was an advisory program for communities. It was built on three elements: technical and economic advice, housekeeping advice and social advice. So it did not only intend a better management of the farm work, but also a social upgrade of the farmer's family. Running a modern household was in the opinion of the modernists as important as running a farm. They organized also career guidance for the farmer's children, because labour surplus had to be directed towards the growing industry. Important was also advice in heritage questions. The program can be characterized as a clear example of a social engineering activity: the government tried to direct a part of the population into a desired direction by the use of sociological instruments.

²⁰ E.W. Hofstee, 'Veranderend Platteland', *Landbouwkundig Tijdschrift. Maandblad van het Koninklijk Genootschap voor Landbouwwetenschap. Orgaan van het Nederlands Instituut van Landbouwkundig Ingenieurs* 74 (1962) 671-690.

The Rural Area Development Program included between 1956 and 1970 about 35% of the farms and 28% of the land used by farmers. It was not as extended as the land consolidation, but still had a great impact on agriculture. The technical part of the advice work was organized by the Information Service of the Ministry of Agriculture, the social part by the farmer unions. This rather strict division in responsibilities was due to the notion of the confessional parties that state intervention should stop when the life of a family was involved.



Rural Area Development Projects, mostly concentrated in the southern and eastern part of the Netherlands. The thickness of the points indicates the extent of the project.

Initially the program aimed to change complete agricultural communities. Social engineering was seen as a community process. The modernists presumed that progressive farmers would take their fellow-villagers in tow. But during the execution of the program they changed their approach. Later on the farmers who had the best opportunities in the future were definitely favoured. This change became possible because the confessional parties no longer insisted on the survival of small farms. In exchange the government promised small farmers a pension. Other farmers expanded their farms with the free coming land. As a result during the sixties and the seventies the number of farmers decreased rapidly.

It is not easy to measure the results of the Rural Area Development Program. The areas where the program was executed did not fall further behind. On the other hand it is also clear that improvement could not always be claimed by the program. The Dutch society, like other European societies, underwent a tremendous change in the sixties. The introduction of the television influenced the rural population probably much more than any rural development program could have done. So the results of the Rural Area Development Program are less obvious than those of the Land Consolidation Program. However, this paper focuses more on the global effects of this program than in an evaluation of the results.²¹ One of those global effects was the contribution of the program to the industrialization of the farm work.

The turning point

The process of modernisation did not stop in 1970. The Dutch agricultural sector was still undergoing a substantial transformation. Efficiency, rationalisation and scale enlargement founded on scientific knowledge about production methods and product improvement created a new kind of industrial agriculture. In sociological perspective farmer families were no longer a different group compared to the families in the city and villages. Although their lifestyle was adapted to the farm work, they shared the same values as city people. This was certainly for a part the work of the modernists, but many things developed outside their influence. Nevertheless, the engagement of the state with the agricultural sector had never before been as radical as in the decades after the Second

²¹ See for results: Karel, *Maakbare boer*, 328-332.

World War. However, in spite of or maybe because of this state interference the process seemed too got out of hand.

One of the most interesting remarks was made by Hofstee half way the sixties. In the Dutch agricultural landscape the first very specialized factory farming emerged in the chicken farming. Even Hofstee, a modernist par excellence, could not believe his eyes. He stated: 'From a sociological point of view, we do not know this new agriculture person'.²² The modernist plans were passed by reality. Even though the modernist emphasized the need for farmers to turn into modern entrepreneurs; they obviously had no idea what this would mean from a technical point of view. The specialization turned farms into factories, which had to be managed like industrial plants. Another modernist, the former minister of Agriculture and EEC-commissioner Sicco Mansholt stated at the end of his life that he regretted that the small farmers had totally disappeared.²³ The remarks of Hofstee and Mansholt underline that modernization turned its own way.

One of the most interesting analyses of the modern development came from one of Hofstee's staff members, Bruno Benvenuti. When he published his thesis in 1961 he still endorsed Hofstee's theory of the 'modern-dynamic culture pattern'.²⁴ However, after he became more critical towards the results of the modernization process, he developed his so called TATE concept (Technological-Administrative Task Environment). Benvenuti wondered why a farmer in Holland and a farmer in Italy used exactly the same milk tank. Both farmers had a radical different farm tradition, lived about 1000 miles from each other and made very different investments. The answer to his question was the growing influence of the dairy factory. Institutes like dairy factories, banks, cooperatives, but also rules and acts of the European Commission pushed farmers in a certain direction. It was no longer the farmer who decided about the strategy of his enterprise, but the institutes and corporations that surrounded the farm.²⁵ The farmer had become more or less a puppet on a string. Later on he modified his point of view as a result of the debate about

²² A. Constandse, *Boer en toekomstbeeld. Enkel beschouwingen naar aanleiding van een terreinverkenning in de Noordoostpolder (Farmers and the image of the future)* (Wageningen 1964), 75-77 [epilogue E.W. Hofstee].

²³ F. Westerman, *De graanrepubliek*, 229.

²⁴ B. Benvenuti, *Farming in cultural change* (Assen 1961)

²⁵ B. Benvenuti, *Geschriften over landbouw, structuur en technologie. Ingeleid, bewerkt en vertaald door Jan Douwe van der Ploeg* (Wageningen 1991).

structuralism and actor-orientated analyses.²⁶ Modern rural sociologists, among whom Benvenuti admirer Jan Douwe van der Ploeg, advocate a more refined analyse in which a farmer has the choice to overcome the institutional barriers and develop new directions in agriculture.²⁷ But even he stated that the system had created a *virtual farmer*: plans and models worked with an imaginary farmer, not a real existing one.

The rural sociologist from Wageningen University developed from the nineties a new concept for agricultural modernization, especially for farmers who were not able to follow the industrialization of the farm work. In the so called *differentiated agriculture* small farmers could survive by looking for alternatives: organic agriculture, farms with camping side, the combination of farm work and mental well-being and so on.

The effects of the modernization after 1975

The modernization or industrialization of the farm work is a worldwide on going process. Until now it mostly resulted in a more economic efficient way of producing. However in the beginning of the seventies it became clear that modernization had a negative effect on the environment. Land consolidation ruined the traditional small-scaled landscape. It was only preserved in places that not yet had been part of the land consolidation program. Even the landscape architects who were responsible for the land consolidation plans realized that these unique areas should be protected.²⁸ At the same time the environmental consciousness grew in the western world. Books like *Silent Spring* (1962) from Rachel Carson, in which she warned for the unrestrained use of chemicals, influenced the public opinion.²⁹ And also the publication in 1972 of *Limits of growth* (report for the Club of Rome) and shortly afterwards the outbreak of the first oil crisis (1973) convinced people to spare nature.³⁰

²⁶ B. Benvenuti en J. Frouws, 'De dialectiek van de autonomie en systeemintegratie in de landbouw naar een synthese van structuralisme en actor-oriëntatie in de rurale sociologie', *Tijdschrift voor sociaal-wetenschappelijk onderzoek in de landbouw* 13 (1998) 212-220.

²⁷ J.D. van der Ploeg, *De virtuele boer* (Assen 1999); R. van Broekhuizen, L. Klep, H. Oostindie and J.D. van der Ploeg, *Atlas van het vernieuwend platteland. Tweehonderd voorbeelden uit de praktijk* (Doetinchem 1997).

²⁸ Erwin H. Karel, *De natuur is ook maar een mens....het nationaal Centrum voor Bos, Natuur en Landschap Kasteel Groeneveld 1982-2007* (Baarn 2008), 96-121.

²⁹ Rachel Carson, *Silent Spring* (Greenwich 1962).

³⁰ D.H. Meadows e.a., (ed.) *The limits to growth. A report for the Club of Rome's project on the predicament of mankind* (London 1972).

The first major environmental policy of the government concerning agriculture was developed in 1975 with the so called Relation Memorandum (Relatienota). It gave farmers the opportunity to act as managers of nature next to their farm work. First it led to great disapproval. Farmers opposed that they were no park keepers, but the financial advantages finally convinced a substantial number of farmers. In 1996 6000 farmers, which is 8-9% of total number of Dutch farmers, managed 43.000 hectare of Relation Memorandum-land.³¹ Over all it concerns about 2% of the Dutch agriculture area

In 1985 The Land Consolidation Act was replaced by the Land Reconstruction Act. In this act not only attention was paid to land consolidation, but also to nature preservation, recreation activities in the rural area and expansion of villages. From this moment on the agriculture sector lost its monopoly on the rural side.³² The changing governmental view on the relation of agriculture and nature was also expressed in the state organisation. In the beginning of the eighties the Ministry of Agriculture became also responsible for nature conservation. Until then it was a task of the Ministry of Culture. Two of the most opposite groups, farmers and nature conservationist, were locked up in the same governmental organization. At first this seemed rather uncomfortable, but within the ministry both groups found a way to deal with each other.³³ It resulted as far as the landscape policy is concerned into a so called Ecological Main Structure (EMS), in which nature reserve are linked together by nature zones. Farmers nearby this EMS are often restricted in the use of fertilizers, pesticide and so on.³⁴ The EMS is nowadays linked to EC-programs like Nature 2000.

Modernization of agriculture did not only affect the landscape. In the decades after the seventies the environmental subjects concerning agriculture were followed by discussion about the manure surplus, the use of pesticides and soil improvers and finally the plagues as a result of modern cattle breeding. Soil, water and air pollution as a result of the new production method of farmers were put on the political agenda. In some areas

³¹ CBS, *Boeren in een veranderd milieu* (Heerlen 1997).

³² Van den Bergh, *Verdeeld land*, 56-58.

³³ Hans Bekker en Jouke de Vries, *De ontpoldering van de Nederlandse landbouw. Het Ministerie van Landbouw, Natuurbeheer en Visserij 1994-2000* (Leuven-Apeldoorn 1994).

³⁴ See for example about the success of this project: H. Bartelink et al (ed.) *Publiek Geheim. Het success van de EHS* (2010).

Success was booked. For example: the use of chemicals dropped, but in reality Dutch farmers still use a very high rate per hectare.

Table 2. Use of chemical agents in Dutch agriculture (per 1000 kg active substance)

	1985	1990	1995	2000	2005	2006	2007	2008
Insecticide	634	731	495	260	176	173	179	184
Fungicide	4 363	4 143	3 991	4 460	4 181	3 980	4 709	4357
Herbicide	3 978	3 467	3 070	2 605	2 482	2 533	2 736	2857
Soil 'disinfectants'	10 784	8 937	2 374	1 402	1 368	1 448	1 624	.
Other chemical agents	1 244	1 559	992	917	1 102	1 276	1 492	.
Totaal	21 003	18 837	10 922	9 644	9 309	9 411	10 741	10 252

Source: CBS 2008

In the 20th and first decade of the 21th century the outbreak of cattle plagues was added to the serious environmental problems caused by agriculture. These plagues threaten also the public health. The industrialization of agriculture, which were responsible for the large size of the plagues, can be best illustrated by the fact that the government starts to propagate the creation of special farm zone's, like they did before with industrial zone's. By the concentration of farms in special areas the government hopes to manage the environmental problems better.

Agriculture became locked up in a split process. The modernization of the farming style has resulted in an industrial way of production and is still strongly stimulated by the actual economic demands. One of the side effects of the accelerating globalization process was that farmers lost their grip on the strategy of their enterprise, as it was already analyzed by Benvenuti. EEC policy protected most farmers in first instant against the negative effects of the international market. However since the EC has started to reconstruct its agriculture policy towards the demands of a free market, like propagated by GATT conferences, the farmers are more depended on international operating multinational companies.³⁵

On the other hand the demands of environmentalists are also growing. Their political power seems sometimes to surpass that of the farmers and their unions. Modernization caused an enormous exodus of farmers in the sector. Between 1945 and 2010 the number of farmers in the Netherlands decreased from 400.000 to 70.000. After the mid sixties

³⁵ Daniël Broersma, *LTO tussen Europa en de regio. De geschiedenis van LTO Nederland 1995-2005* (forthcoming: Groningen/Wageningen autumn 2010)

many farmers stopped their activities. Their land was used for scaling up other farms. This reduction of the number of farmers had an important side effect: the farmer unions, funding party of the so called iron triangle/Green Front, lost their support. Besides that, modernization caused also a process of individualization: farmers became more and more individual entrepreneurs instead of being part of a group of farmers. Farmers lost their confidence in unions and parties that seem to be unable to represent their demands adequately. And, in so far parties are concerned, they depend less on the electoral support of farmers. For many years there had been a strong tie between the government and the farmer unions. The Ministry of Agriculture, the farmer unions and the Members of Parliament of several parties formed a solid block that ruled the agricultural sector with a firm hand. During the seventies the first crack became visible and in the beginning of the nineties the iron triangle/Green Front collapsed.

Besides the above given reason there is another aspect that stimulated this collapse. The modernization caused a growing specialization in farm work. Factory farming, greenery, dairy farming and so on did share less and less common interests. In fact farmers in the different sectors sometimes have opposing interests. Ironically the modernization undermined in the long run the political power of farmers.³⁶ Apart from that, farmers still can derive political power from their landownership. Sixty percent of the land area in the Netherlands is farmer land.

Conclusion: role of the state after 1945

Before the Second World War state intervention in the agriculture sector was determined by special economic and political circumstances. The agriculture depression, the First World War and the crisis in the thirties were reasons for the government to intervene. Although these interventions were intended to be temporarily, they increased the commitment of the state in the longer run. However, these interventions can hardly be compared with what happened after the Second World War. State intervention in the first decades after 1945 became the rule instead of the exception. Farmers used the opportunity to build up an effective political stronghold within the state apparatus. Government and farmers worked together in modernizing the Dutch agricultural sector in

³⁶ Broersma, *LTO tussen Europa en de regio*.

a rather radical way. They stimulated the industrialization of the farm work. After the proclamation of the treaty of Rome in 1958 (EEC) the influence of the state increased further.

There were several reasons for the state to intervene quite deeply in agriculture after 1945. First of all it had to secure the food production. After the unification of Europe this argument became less important, because autarky became a European political question and not one of the separate countries. The second reason to intervene after 1945 was the worsening of the competitive situation of the Dutch agriculture on the international market. The improvement of the situation required a fundamental reorganisation of the sector. The government initiated several programs that had to improve the production conditions. It even tried to develop in cooperation with rural sociologists a modernization theory for this situation. The programs were rather successfully executed, although not without some frictions. But remarkably enough the modernists were passed by reality. From the seventies on the modernizations accelerated in an industrialization of the agriculture sector.

The industrialization of the farm work had negative effects on the environment. Therefore, the opposition against the dominant position of the agriculture sector grew. First this became apparent in the discussion about preserving nature. The growing environmental consciousness forced the government into a new direction. It could no longer choose unconditionally for the interest of the agriculture sector. From the eighties on the political stronghold of the farmers started to fall apart. This does not imply that the role of the state in agricultural issues ended.

The friction between environmental interests and agricultural interest is still a daily problem and the argument is by no means decided in favour of the environmentalists. Besides, the adaption of farmers of a more sustainable way of production is very marginally. The economic pressure on farmers is too strong to ignore new production methods that can lower cost, but are often less preferable for the environment. Developing a policy that is satisfactory for both farmers and environmentalists is not very successful.

Globalization caused a further shift in the balance of power. The deep engagement between farmers and state, the role the state played in regulating production and prices

and a government that defended Dutch agriculture interest in the EC gave the state an enormous influence. Now the government withdraw from those roles the balance of power is shifting again towards agriculture companies that rule the world market. Their interest in environmental questions is low.

During the period between 1945 and 1970 the Dutch farmers succeeded in building up a stronghold within the state. This situation altered after 1970 somewhat in favour of environmentalist but the Dutch government was so deeply engaged in the agricultural sector by all kinds of programs, that it was impossible to withdraw. The farmer's interest is still dominant, although nature conservation became part of the Ministry of Agriculture. It is expected that the Department in the near future will become part of the Ministry of Economics. In that case economic interests will prevail above environmental questions.

During the period between 1950 and 1980 the involvement of the state with agriculture became so intensively, that it was impossible to pull back. Agriculture in the Netherlands can only survive when it is protected by the government; the Dutch government is obliged to optimize the farmer's interest within the EC. This role of the Dutch government obstructs an effective environmental policy.

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